

Amendment After Final Rejection  
Serial No. 09/411,756

PHA 23,789

**IN THE CLAIMS:**

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1. (Currently Amended) A method of encoding XML content, comprising the steps of:

generating content nodes for transmitting content information of a larger XML document tree; and

generating at least one structure node associated with a predetermined number of said content nodes to encode a structure of at least one respective sub-tree relative to other sub-trees within a larger XML document tree and for indicating where said content nodes are positioned as- within at least one respective sub-tree to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of the within a larger XML document tree without requiring receipt of the all the node information being received.

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2. (Previously Amended) The method of claim 1, wherein said content nodes and said structure nodes are generated in accordance with a specified pseudo-code.

3. (Original) The method of claim 1, wherein said structure node includes a list of said content nodes.

4. (Previously Amended) The method of claim 1, wherein a text portion of said XML content is provided in real-time by a user operating a textual input device prior to being encoded into content nodes.

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5. (Previously Amended) The method of claim 1, wherein a text portion of said XML content is provided in real time by a user operating a speech recognition system that converts speech to text prior to being encoded into content nodes.

6. (Currently Amended) A method of encoding an XML document, said XML document comprised of a plurality of nodes, said method comprising the steps of:

decomposing said XML document into a plurality of sub-trees of a larger XML document tree, each of said sub-trees including at least one structure node; and independently transmitting each of said sub-trees with information indicating how said sub-tree is positioned relative to other sub-trees within said larger XML document to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of said larger XML document at a receiving end based on only the independently transmitted sub-trees that are received.

7. (Original) The method of claim 6, wherein said decomposing step is performed in accordance with a specified document template.

8. (Original) The method of claim 6, wherein said information indicating how said sub-tree is positioned within said larger XML document is transmitted in a structure node.

9. (Previously Amended) The method of claim 6, wherein a text portion of the nodes of said XML document is generated in real-time by a user operating a textual input device.

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10. (Previously Amended) The method of claim 6, wherein a text portion of the nodes of said XML document is generated in real-time by a speech recognition system that converts input speech to text.

11. (Currently Amended) A method for transmitting an XML document as a continuous stream, comprising the steps of:

decomposing said XML document into a plurality of sub-trees of a larger XML document tree;

generating content nodes for transmitting content information included in said XML document; and

generating at least one structure node for associated with each of said sub-trees, said structure nodes identifying content nodes included in said corresponding sub-tree and indicating where said sub-tree is positioned relative to other sub-trees within said larger XML document to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of said larger XML document at a receiving end based on only the independently transmitted sub-trees that are received.

12. (Original) The method of claim 11, wherein said decomposing step is performed in accordance with a specified document template.

13. (Original) The method of claim 11, wherein said structure node includes a list of said content nodes.

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14. (Original) The method of claim 11, wherein said XML content is generated in real-time by a user operating a textual input device.

15. (Previously Amended) The method of claim 11, wherein a text portion of said XML content is generated in real time by user-operating a textual input device.

16. (Currently Amended) A method for receiving a streamed XML document, said XML document including content nodes and structure nodes, said method comprising the steps of:

determining if each received node is a content node or a structure node of a sub-tree of a larger XML document;

processing said content nodes directly; and

recompiling said XML document from said content nodes using information contained in said structure node about a position of said sub-tree of the larger XML document relative to other sub-trees by permitting reconstruction in mid-transmission ranging from at least partial to complete reconstruction of said larger XML document without receiving all of the nodes comprising the larger XML document.

17. (Original) The method of claim 16, wherein said processing step further comprises the step of displaying said content.

18. (Original) The method of claim 16, wherein said processing step further comprises the step of storing said content.

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19. (Previously Amended) The method of claim 16, further comprising the step of continuing to process subsequent nodes even of one of said nodes is not properly received by an XML receiver, wherein each sub-tree from the XML document is parsed and validated by the XML receiver as though it were an independent tree.

20. (Currently Amended) A method of decoding a received XML document, said XML document comprised of a plurality of nodes, said method comprising the steps of:

receiving a plurality of XML sub-trees, each of said sub-trees including at least one structure node and indicating how said sub-tree is positioned within said larger XML document relative to other sub-trees by permitting reconstruction in mid-transmission ranging from at least partial to complete reconstruction of said larger XML document without receiving all of the nodes comprising the larger XML document; and

positioning each of said sub-trees in a larger XML document using said received position indication.

21. (Original) The method of claim 20, wherein said processing step further comprises the step of displaying said content.

22. (Original) The method of claim 20, wherein said processing step further comprises the step of storing said content.

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23. (Currently Amended) An XML transmitter comprising:

a memory for storing XML content and computer readable code; and  
a processor operatively coupled to said memory, said processor configured

to:

generate content nodes for transmitting content information; and

generate at least one structure node associated with at least one respective  
sub-tree of said content nodes for indicating where said content nodes are positioned in the  
at least one respective sub-tree within a larger XML document tree to permit  
reconstruction in mid-transmission ranging from at least partial to complete  
reconstruction of the larger XML document at a receiving end.

24. (Currently Amended) An XML transmitter comprising:

a memory for storing XML content and computer readable code; and  
a processor operatively coupled to said memory, said processor configured

to:

decompose said XML document into a plurality of sub-trees, each of said  
sub-trees including at least one node; and  
independently transmit each of said sub-trees with information indicating  
how said sub-tree is positioned within said larger XML document to permit reconstruction  
in mid-transmission ranging from at least partial to complete reconstruction of the  
larger XML document at the receiving end.

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25. (Currently Amended) An XML transmitter comprising:

a memory for storing XML content and computer readable code; and  
a processor operatively coupled to said memory, said processor configured to:  
decompose said XML document into a plurality of sub-trees;  
generate content nodes for transmitting content information included in said XML  
document; and  
generate at least one structure node for each of said sub-trees, said structure nodes  
associated with one or more of the content nodes for identifying at a receiving end  
content nodes included in said corresponding sub-tree and indicating where said sub-tree is  
positioned relative to other sub-trees within said larger XML document without  
requiring all of the content nodes being received to permit reconstruction in mid-  
transmission ranging from at least partial to complete reconstruction of the larger  
XML document at the receiving end.

26. (Currently Amended) An XML receiver for receiving a streamed XML  
document, said XML document including content nodes and structure nodes, comprising:

a memory for storing computer readable code; and  
a processor operatively coupled to said memory, said processor configured to:  
determine if each received node is a content node or a structure node,

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if said received node is a content node, determining whether said content node is associated with a particular structure node, and

if said received node is a structure node, determining a position of a sub-tree of the structure node relative to other sub-trees;

process said content nodes directly; and

recompile to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of the larger XML document tree at a receiving end without receipt of all of the nodes.

said XML document from said content nodes using information contained in said structure node.

27. (Currently Amended) An XML receiver for receiving a streamed XML document, said XML document including content nodes and structure nodes, comprising:

a memory for storing computer readable code; and

a processor operatively coupled to said memory, said processor configured to:

receive a plurality of XML sub-trees, each of said sub-trees including at least one structure node associated with one or more content nodes, said structure node and indicating how said sub-tree is positioned relative to other sub-trees within said larger XML document; and

position each of said sub-trees in a larger XML document tree using said received position indication to permit reconstruction in mid-transmission ranging from at least partial to complete reconstruction of the XML document without receiving all of the nodes transmitted.



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